



TECHNICAL INFORMATION BULLETIN

Storage and Handling of Processed Film

Updated May 17, 2002

Processed Film Storage

You can store exposed and processed camera films for a greater length of time than unprocessed exposed or unexposed film.

Processed Film Storage Conditions

	Short Term (less than 6 months)		Long Term (more than 6 months)	
	Temp	% Relative Humidity	Temp	% Relative Humidity
Processed B&W	21°C (70°F)	below 60%	21°C (70°F)	20 to 30%
Processed Color	21°C (70°F)	20 to 50%	2°C (36°F)	20 to 30%

Effects of Humidity on Processed Film

Humidity lower than 50% usually increases static problems and dirt attraction to processed film. At very low humidity, film curl may become a problem (e.g. Newton's Rings - see text below). Click on this link to go to Motion Picture Imaging's storage information: [Storage - Relative Humidity](#)

Newton's Rings and Ferrotyping

Concentric bands of colored light sometimes seen around the areas where two transparent surfaces, such as two pieces of glass or two pieces of film (as in contact printing), are not quite in contact are called Newton's Rings. The rings are the result of interference and occur when the separation between surfaces is of the same order as the wavelength of light.

Ferrotyping describes a smooth and shiny blotch or series of blotches on the emulsion surface. It is caused by the presence of heat and/or moisture with pressure. Sources of ferrotyping can be improper drying conditions on the processing machine, the wound roll of film was wound under excess moisture (high humidity conditions), or the wound roll was subjected to high heat either before or after processing. For more information click here: [ferrotyping](#).

Effects of Contaminants

Certain gases such as formaldehyde, hydrogen sulfide, hydrogen peroxide, sulfur dioxide, ammonia, illuminating gas, motor exhaust, and vapors from solvents, mothballs, cleaners, turpentine, mildew or fungus preventatives, and mercury can damage unprocessed and processed film. Keep film away from such contaminants.

Extended Storage Time - 10 Years or More

Color dyes are more prone to change than silver images when kept for extended periods of time. The following minimum guidelines are suggested for keeping films for 10 years or more:

- Adequately wash the film to remove residual chemicals such as hypo. See ANSI PH 4.8-1985 for recommended levels and a testing method for residual hypo.
- Some color films designed for processes other than ECN-2 and ECP-2D may require stabilization during processing (e.g., some reversal films using process VNF-1). Always follow recommended process specifications and formulas.
- All film should be as clean as possible, and should be cleaned professionally. If you use a liquid cleaner, provide adequate ventilation. Adhere to local municipal codes in using and disposing solvents.
- Keep film out of an atmosphere containing chemical fumes. See **“Effects of Contaminants”** above.
- Do not store processed film above the recommended 21°C (70°F), 20 to 50% RH for acetate or polyester.
- Wind films emulsion-in and store flat in untaped cans under the above conditions.

Additional information can be obtained from ISO 2803 or ANSI PH1 43-1985, “Practice for storage of processed safety photographic film.”

Airport X-Ray Fog

Processed film is not affected by the x-ray scanners at the airport.

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